

FAKTOVSKIY, I. I.

N/5

662.41

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Teplotekhnicheskiye Kontrol'no-Izmeritel'nyye Pribury (Thermo-Technical Control and Measurement Instruments, by) M. D. Kuzin i I. I. Faktovskiy. Izd. 2, Isprav, I Dop. Moskva, Mashgiz, 1955.

399 P. Diagrams., Tables.

PAKTYBAYEV, K.B.; BUKAT, G.M.

Alpha-decay mechanism and reduced level widths of Po^{210} and
 Po^{212} nuclei. Izv. AN SSSR. Ser. fiz. 27 no.10:1297-1304 0 '63.
(MIRA 16:10)

ACCESSION NR: AP4042969

S/0048/64/028/007/1229/1233

AUTHOR: Baktybayev, K.D.; Bukat, O.M.

TITLE: Reduced alpha-particle widths of bismuth 210 and the energy level spectrum of thallium 206 /Report, 14th Annual Conference on Nuclear Spectroscopy held in Tbilisi 14-21 Feb 1984/

SOURCE: AN SSSR. Izv. Seriya fizicheskaya, v.28, no.7, 1984, 1229-1233

TOPIC TAGS: radioactivity, alpha decay, nuclear spectroscopy, nuclear force, bismuth, thallium

ABSTRACT: The reduced widths were calculated for alpha decay of the ground state and the 250 keV 9^- excited state of Bi^{210} to the following states of Tl^{206} : the 2^- and 3^- states at 800 and 654 keV (not necessarily respectively), the 301 keV 1^- state, the 262 keV 2^- state, and a hypothetical low-lying 1^- state. The methods employed have been previously described by the authors (Izv.AN SSSR,Ser.viz.27,1297, 1963; 28,102,1984). The calculations were undertaken primarily to determine whether the failure so far to observe alpha transition to the low-lying 1^- state is compelling proof of its non-existence, as argued by H.D.Zeh and H.I.Mang (Nucl.Phys.29,

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ACCESSION NR: AP4042969

529,1962). This question is of some importance, for it involves the existence or non-existence of tensor forces in the residual nuclear interactions. The description of the nuclei given by L.A.Sliv, G.A.Sogomnova and Yu.I.Kharitonov (Zhur. eksp.i teor.fiz.40,946,1961; Izv.AN SSSR,Ser.fiz.28,315,1964) on the basis of the shell model with central residual forces was employed in the calculations. According to this model, the lowest states of Ti^{206} are those of a $p_{1/2}^{s1/2}$ (0.1) doublet with very small separation, and the ground state of Bi^{210} is a mixture of many configurations of which $111/2^{h9/2}$ and $69/2^{h9/2}$ predominate. The reduced widths for transitions from either of the two bismuth states to the low-lying 1^- thallium state were found to be much smaller than the other reduced widths. The relative intensities of the alpha transitions were calculated from the reduced widths and the barrier penetration factors, and they are compared with the experimental results. Excellent agreement was found for the transitions to the 262 and 301 keV thallium levels. For the 654 and 800 keV levels, the intensity of the transition to one (depending on the assignment) was in good agreement with experiment, and that to the other was off by a factor 4. The calculations indicate that about 3% of the alpha transitions from the excited bismuth state should be to the low-lying 1^- thallium level. The transition probability was given by the calculations, however, as the

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difference between two large numbers, and it might well be in fact much smaller. If one ignores configuration mixing and employs pure shell model states in the calculations, as did Zeh and Mang (loc.cit) one finds a much larger transition probability. It is concluded that the experimental data are not inconsistent with the existence of a low-lying 1^- level in Tl^{206} . "In conclusion, the authors express their deep gratitude to L.A.Sliv for his constant interest in the work and for a number of valuable remarks." Orig.art.has: 3 formulas, 1 figures and 2 tables.

ASSOCIATION: Fiziko-tekhnicheskiy institut im.A.F.Ioffe Akademii nauk SSSR (Physico-technical Institute, Academy of Sciences, SSSR)

SUBMITTED: 00

SUB CODE: NP

NR REF SOV: 003

ENCL: 00

OTHER: 005

3/3

BAKTYBAYEV, K. B.; BUKAT, G. M.

"Alpha Decay and Nuclear Structure."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22
Feb 64.

FTI (Physico Technical Inst)

BAKTYRAYEV, K.B.; BUKAT, G.M.

Alpha-decay of Ra^{222} and the level structure of radon isotopes.
Izv. AN SSSR. Ser. fiz. 28 no.7:1203-1206 J1 '64
(MIRA 17:8)

Alpha-ray reduced widths in Bi^{210} and the spectrum of levels in
 Tl^{206} . Ibid.:1229-1233.

1. Fiziko-tekhnicheskiy institut im. A.F. Ioffe AN SSSR.

L 20392-66 ENT(m) DIAAP
ACC NR: AP6005871

SOURCE CODE: UR/0367/65/002/004/0585/0595

AUTHOR: Baktybayev, K. B.; Bukat, G. M.

ORG: Physicotechnical Institute im. A. F. Ioffe, Academy of Sciences SSSR (Fiziko-
tekhnicheskii institut Akademii nauk SSSR)

TITLE: Alpha decay and structure of nuclei in the region of Pb^{208}

SOURCE: Yadernaya fizika, v. 2, no. 4, 1965, 585-595

TOPIC TAGS: lead, bismuth, radium, Alpha decay, nuclear structure, proton interaction, neutron interaction, wave function, nuclear spectroscopy

ABSTRACT: The authors calculate the alpha widths of the ground and excited levels of several nuclei in the vicinity of lead, such as Po^{212} , Bi^{210} , and Ra^{222} . The influence of the residual interaction and of the structure of the levels of the parent and daughter nuclei on the relative values of the alpha-decay amplitude is investigated. The calculations employed take into account the dynamics of the internal motion and explain in natural fashion many details of alpha decay, providing a better understanding of the connection between its characteristic and the energy and electromagnetic characteristics of the nuclei. It is shown that in addition to pp and nn interactions, an important role is played by np interactions in the cor-

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L 20392-66
ACC NR: AF6005871

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relation of the four nucleons into an alpha cluster. The fact that the authors used the wave functions obtained by L. A. Sliv and his co-workers (ZhETF v. 36, 539, 1959; Nucl. Phys. v. 28, 192, 1960) without additional assumptions or new parameters, offers evidence that these functions represent with sufficient accuracy the properties of the nucleus as a system of interacting nucleons. The results show that the study of alpha decay yields valuable information on the structure of the nuclear levels and the character of the residual interaction on the nucleons. Conversely, alpha decay can be used for nuclear spectroscopy since it facilitates the identification of the levels. The authors thank Professor L. A. Sliv for continuous interest in the work and Professor J. O. Rasmussen for a useful discussion. Orig. art. has: 1 figure, 5 formulas, and 7 tables.

SUB CODE: 20/ SUBM DATE: 25Jan65/ ORIG REF: 004/ OTH REF: 012

Cord 2/2 ULR

BAKULEV, A.N.; PRONIN, V.I.

Experiences in the surgical treatment of coronary insufficiency.
Bratisl. lek. listy 2 no.9:505-514 '63.

1. Oddelenie cievnej chirurgie (veduci dr.med. vied. Ju.E.Berezov
[Yu.E.Berezov]) Institutu srdcovocievnej chirurgie (riaditel:
prof.S.A.Kolesnikov; vedecky veduci akademik A.N. Bakulev) Aka-
demie lekarskych vied SSSR.

*

BARUKINA, O. I.

"Comparin the Stability of Various Grades of Butter." Cand Tech Sci, Latvian Agricultural Acad, Riga, 1954. (RZhKhim, no 23, Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556, 24 Jun 55

BAKUL', B.N., kand.tekhn.nauk; ZAKHARENKO, I.P., kand.tekhn.nauk;
CHEPOVETSKIY, I.Kh., inzh.

Sharpening hard-alloy wood-cutting instruments with diamond rings.
Der. prom. 12 no.9:8-9 S '63. (MIRA 16:10)

1. Ukrainskiy nauchno-issledovatel'skiy institut sinteticheskikh
sverkhtverdykh materialov i instrumenta.

S/198/63/009/001/006/006
D251/D308

AUTHORS: Hrozin, B.D. (deceased), Bakul', V.M. and Pelepelin, V.M. (Kiev)

TITLE: Plastic deformation of hard alloys

PERIODICAL: Prykladna mekhanika, v. 9, no. 1, 1963, 94-98

TEXT: Since hard alloys are widely used as materials for instrument and machine-component construction, a study of their plastic properties is of considerable technological as well as theoretical value. The existing information on this problem being limited and scattered, the authors use a method based on the uneven compression of hoops to study the plastic deformation of two-phase tungsten carbide - cobalt alloys. The cobalt content varies from 4 to 25%. The residual deformation is shown to be considerable, being 11% for the 4% Co alloy, 9.5% for the 6% Co alloy, and then increasing to 18.5% for 25% Co. The effect of deformation on the hardness, coercive force and specific conductivity is also shown; the hardness decreases after deformation but the other two parameters increase.

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Plastic deformation of hard alloys

S/198/63/009/001/006/006
D251/D308

These latter may be taken as sensitive characteristics of the effect of deformation. Further investigations of the effect of deformation will be carried out with the aid of X-rays, metallography and assaying. There are 2 figures and 2 tables.

ASSOCIATION: Instytut mekhaniki AN URSR (Institute of Mechanics of the AS UkrSSR)

SUBMITTED: September 4, 1962

Card 2/2

BAKULA, M.

Machine-tractor stations are responsible for the fulfillment of the plan for sugar-beet output. p. 145. (Mechanizace Zemedelstvi, Vol. 7, No. 7, Apr. 1957, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (FEAL) LC, Vol. 6, No. 8, Aug 1957. Uncl.

BAKULA, S.

Beginning of something new. Grashd.av. 17 no.6:10
Je '60. (MIRA 13:7)
(Air lines)

83383

9.3/50

Z/037/60/000/005/016/056

E192/E382

AUTHORS: Bakule, R., Šícha, M., Veselý, V. and Kracík, J.

TITLE: Complex Conductivity of Plasma in a DC Glow Discharge
in Neon

PERIODICAL: Geskoslovensky casopis pro fysiku, 1960,
No. 5, p. 408

TEXT: The measurement of the concentration and collision frequency in the positive column of a DC glow discharge in neon by the high-frequency method is described. The results of the measurements show that the expression for the complex conductivity of plasma derived by Fange is applicable to the positive column of a DC glow discharge. It is also shown that the measurements can also be analysed by means of the Lorenz formula which is simpler for numerical calculations. The electron concentration evaluated from this formula is (within the range of experimental error) similar to that calculated from the Fange expression. X

ASSOCIATIONS: Katedra elektroniky a vakuové fyziky Karlovy
university, Praha (Chair of Electronics and Vacuum Physics of
Charles University, Prague)

Fysikální ústav ČVUT, Poděbrady (Physics Institute
of ČVUT, Poděbrady.

Card 1/1

TERESHIN, B.N.; BAKULENKO, G.S.

The hydromat, a continuous centrifugal (from "Zeitschrift für die
Zuckerindustrie," no.8 1956). Reviewed by B.N. Tereshin, G.S.
Bakulenko. Sakh. prom. 31 no.1:76-77 Ja '57. (MIRA 10:4)
(Centrifuges) (Sugar machinery)

9

'CA
BAKUL', V.R.

Use of hard alloys for drilling through hard formations.
P. Bakul and M. M. Kravtsov. *Redkie Metal*, 8,
No. 1, (6-27) (1960). - Drills tipped with Polakrit, a WC
alloy, drilled through bentonite 4 times as fast as steel
drills. Resharpening was necessary after drilling 84 cm.
as compared to 2.8 cm. for steel drills. H W R

A.S.T.M. METALLURGICAL LITERATURE CLASSIFICATION

"The Results of Using Detachable Boring Bits for Percussive Pneumatic Drilling" Tsvet.
Met., 14, No. 4-5, 1939.

Report U-1506, 4 Oct. 1951.

BAKUL 2/V8NB

OKU

1. BAKUL', V.N.

2. USSR (600)

"The Manufacturing and Threading of Rods for Detachable Boring Bits Made by the Khar'kov Machine-Tool and Tool Plant (KhSIZ)" Tsvet. Met. 14, No 9, September 1939.

9. Report U-1506, 4 Oct. 1951.

BAKUL', V.N., inzhener.

Mechanised boring of holes in granite facing details. Mekh.stroi.11
no.5:29-30 '54. (MLRA 7:5)
(Drilling and boring) (Granite)

147 14, 14

USSR/Scientific Organization - Conference

Card 1/1 : Pub. 128 - 32/38

Authors : Bakul', V. N.

Title : Scientific-technical conference on repeated restoration of cutting tools

Periodical : Vest. mash. 9, 98-99, Sep 1954

Abstract : The All-Union Mechanical Engineers Scientific and Technical Society in Kharkov hold a conference in Dec. 1953, on problems pertaining to the repeated restoration of cutting tools. Altogether 26 lectures were read on the above mentioned subject, and some 320 delegates representing 183 machine construction plants attended the conference.

Institution : Kharkov Division of the All-Union Mechanical Engineers Scientific and Technical Society

Submitted :

BAKUL', V.N.; KOSTENETSKAYA, G.D.

New VK4V hard alloy for electric drill cutter heads. Ugol' 33 no.2:
27 F '58. (MIRA 11:2)

1. Ukrtverdsplav.
(Boring machinery) (Tool steel)

POLYAK, A. L., kand. tekhn. nauk; NIKOLAYENKO, A. T., insh.; GRICHENKO, R. N., insh.; BAKUL', V. N., kand. tekhn. nauk; ISAKOV, E. I., insh.; STARKOV, V. I., insh.

Efficient geometry and makes of hard alloys for the blades of cutter locers with a planetary-cutting actuating member. Ugol' Ukr. 6 no.10:20-22 0 '62. (MIRA 15:10)

1. Ukrainskiy nauchno-issledovatel'skiy institut organizatsii i mekhanizatsii shakhtnogo stroitel'stva (for Polyak, Nikolayenko, Grichenko). 2. Ukrainskiy nauchno-issledovatel'skiy institut sinteticheskikh sverkhтвердых материалов i instrumentov (for Bakul', Isakov, Starkov).

(Coal mining machinery)

BAKUL!, V.N., kand. tekhn. nauk; ABRAMOV, A.S., inzh.; SKRIPKO, G.F., insh.

Diamond consumption in machining various brands of hard alloys.
Mashinostroenie no.1:97-99 Ja-F '63. (MIRA 16:7)

(Diamonds, Industrial) (Metal cutting)

BAKUL', V.N., kand. tekhn. nauk; POLADKO, Ye.P., inzh.

Using drill bits of small and reduced diameters. Met. i
gornorud. prom. no.4:44-45 JI-Ag '63. (MIRA 16:11)

1. Institut sverkhтверdykh materialov Gosplana UkrSSR.

BAKUL', V.N., kand. tekhn. nauk; ZAKHARENKO, I.P., kand. tekhn. nauk

Diamond wheels for grinding hard-alloy tools. Mashinostroitel'
no.10:15-16 0 '63. (MIRA 16:12)

BAKUL', V.N., kand. tekhn. nauk; ZAKHARENKO, I.P., kand. tekhn. nauk;
CHEPOVETSKIY, I.Kh., inzh.; STARKOV, V.I., inzh.

Sectional hard-alloy milling cutter with an eccentric clamp.
Der. prom. 12 no.12:21-22 D '63. (MIRA 17:3)

1. Ukrainskiy nauchno-issledovatel'skiy institut sinteti-
cheskikh sverkhtverdykh materialov i instrumenta.

BAKUL', V.N., kand. tekhn. nauk

Use of diamonds in Japanese industry. Mashinostroitel'

no.9:47-48 S '64.

(MIRA 17:10)

BAKUL', V.N., kand. tekhn. nauk

Powders and pastes made of synthetic diamonds and their use.
Mashinostroitel' no.10:10-13 0 '64.

(MIRA 17:11)

BAKUL', V.R., kand. tekhn. nauk; GINZBURG, B.I., inzh.

Prices for diamond powders and synthetic diamond tools. Mashino-
stroenie no.3:95-97 My-Je '64.

(MIRA 17:11)

BAKUL¹, V.N., kand.tekhn.nauk; ZAKHARENKO, I.P., kand.tekhn.nauk; GINZBURG, B.I.,
Inzh.

Introducing synthetic diamonds in the industry of the Ukrainian
S.S.R. Mashinostroenie no.4:38-41 JI-Ag '65.

(MIRA 18:8)

BAKUL!, V.N., kand. tekhn. nauk. ZAKHARENKO, I.P., kand. tekhn. nauk;
BABICH, M.M., kand. tekhn. nauk; NAKUL, I.S., kand. tekhn. nauk;
DUBITSKAYA, I.S., kand. tekhn. nauk

Hard-alloy taps. Mashinostroitel' no.12:15-16 D '65.
(MIRA 18:12)

BAKUL', V.N., kand.tekhn.nauk; ZAKHARCHENKO, I.P., kand.tekhn.nauk; VOLOSHIN, G.M., inzh.; EPSHTEYN, V.M., inzh.; OVCHAROV, V.I.

Diamond machining of a hard-alloy tool. Trakt. i sel'khoz mash.
no.3:33-35 Mr '65. (MIRA 18:5)

1. Ukrainskiy nauchno-iss'edovatel'skiy proyektno-tekhnologicheskii institut sinteticheskikh sverkhтверdykh materialov i instrumenta (for Bakul', Zakharochenko, Voloshin, Epshteyn). 2. Glavnyy inzh. Khar'kovskogo zavoda "Serp i molot).

LISKA, V.; CERMAK, V.; BAKULE, K.

A new type of automatic dilatometers. Chem listy 58 no.10:
1164-1167 O '64.

1. Chair of Technology of Plastic Materials, Higher School
of Chemical Technology, Pardubice.

BAKULE, Roman

Measurement of the dielectric constant in centimeter and decimeter wave zones. Pokroky mat fyz astr 5 no.6:700-713 '60.

1. Matematicko-fyzikalni fakulta Karlovy university.

BAKULE, R.

Measurement of dielectrical permittivity of glow discharge.
Chekhosl fiz zhurnal 13 no.4:253-260 '63.

1. Katedra elektroniky a vakuove fyziky, Karlova universita,
Praha.

BAKULE, Roman; HAVRANEK, Antonin

"Higher school of technical physics" by J. Zeman, V. Sula, O. Tarab, Z. Tluher, J. Tobes. Reviewed by Peter Pokrky, Antonin Havranek. Pokroky mat. fyz. astr. 9 no. 4:255-259 1964.

Handwritten: I.S. Babchin, H.A.

GIRGOLAV, S.S., professor (Leningrad); LEVIT, V.S., professor (Moskva);
 BABCHIN, I.S., professor (Leningrad); BAKULEV, A.N., professor
 (Moskva); BEKERMEN, L.S., dotsent (Leningrad); VAINSHTEYN, V.O.,
 professor (Leningrad); GERTSBERG, V.O., professor (Kazan');
 GINZBERG, M.M., professor (Moskva) [deceased]; GOTLIB, Ya.O.,
 professor (Moskva); DZHANELIDZE, Yu.Yu., professor (Leningrad);
 DRACHINSKAYA, Ye.S., dotsent (Leningrad); YELANSKIY, N.N., professor
 (Leningrad); KORNEV, P.O., professor (Leningrad); KOCHERGIN, I.O.,
 professor (Moskva); LIMBERG, A.A., professor (Leningrad); LIMBERG,
 B.B., professor (Moskva); MEZENEV, S.A., dotsent (Leningrad);
 NAZAROV, V.M., professor (Leningrad); OZEROV, A.D., professor (Lening-
 grad) [deceased]; OSTEN-SAKEN, E.Yu., professor (Leningrad) [deceased];
 PETROV, N.N., professor (Leningrad); POLENOV, A.L., professor (Lening-
 grad); SAMARIN, N.P., professor (Leningrad); SHVARTS, N.V., professor
 (Leningrad) [deceased]; SHAMOV, V.N., professor (Leningrad);
 SHABANOV, A., redaktor

[Manual of specialized surgery] Uchebnik chastnoi khirurgii. Sost.
 I.S.Babchin i dr. Izd. 2-oe, ispr. 1 dop. Moskva, Narkomzdrav SSSR,
 Gos. izd-vo med. lit-ry "Medgiz," Vol.1. 1946. 363 p. (MIRA 10:2)
 (SURGERY)

BAKULEV, Aleksandr Nikolayevich

"Diagnosis and Treatment of Accumulative [slipchivvy] Pericarditis"
Khirurgiya, No. 10, 1948, pp. 33-43.

B. KUL-V, A. W.

"Experiments in Treatment of Ulcerous Diseases by Section of the Vagus Nerve"
Novosti Meditsina, Vol. X, 1948, pp. 49-58.

BAKULEV, A. N.

"Surgical Treatment of Pulmonary Tumors"
V Sob.: Voprosy Grudnoy Khirurgii, Vol. III, Moscow, 1949, pp. 201-205.

BAKULEV, A. M.

"Principal Questions of Surgical Tactics when Suturing an Open Pneumothorax"
(co-author with G. M. Gurevich)
Khirurgiia, No. 8, 1949, pp. 19-28.

BAKULEV, A. N.

"Blood Transfusions in Thoracic Surgery"

(paper by A. N. Bakulev at the First International Congress of the American College of Chest Surgeons in Rome, 1-20 September, 1950)

BAKULEV, A.N.

Blood transfusion in thoracic surgery. Sovet.med. No.2:6-7 Feb 51.
(GIML 20:6)

1. Professor and Active Member of the Academy of Medical Sciences
USSR.

VISHNEVSKIY, A.A.; BAKULEV, A.M.; GUREVICH, N.I.

60th anniversary of G.A. Reinberg. Khirurgia, Moskva No.2:78-79
Feb 51. (CLML 20:6)

BAKULEV, A.N.

Certain problems in the field of surgery according to the Pavlovian theory. Zh. vysshei nerv. deiat. Pavlova 1 no.3:319-331 May-June 1951.
(CML 23:2)

1. Moscow.

BAKULEV, A. N.; MESHALKIN, Ye. N.

Results of application of contrast angiocardiology in
thoracic surgery. Vest. khir. Grekova, Leningr. 71 no.5:3-14
1951. (CIML 21:1)

1. Prof. Bakulev, Active Member AMS USSR; Candidate Medical
Sciences Meshalkin. 2. Of the Faculty Surgical Clinic of the
Therapeutic Faculty, Second Moscow Medical Institute imeni
I. V. Stalin.

BAKULEV, A. N.

"Surgical Treatment of Diseases of the Heart and Main Arteries and Vessels," Moscow,
Izd-vo Ak. Med. Nauk SSSR, 1952.

SMIRNOV, Ye.I., general polkovnik meditsinskoy sluzhby, glavnyy redaktor;
GIRGOLOV, S.S., otvetstvennyy redaktor; ANICHKOV, N.N., redaktor;
YELANSKIY, N.N., redaktor; LEVIT, V.S., redaktor; PRIOROV, N.N.,
redaktor; RUFANOV, I.G., redaktor; SHAMOV, V.N., redaktor; AR'YEV,
T.Ya., redaktor; BAKULEV, A.N., redaktor; ZHMUR, V.A., professor,
redaktor

[Experience acquired by Soviet medicine in the Great Patriotic War,
1941-1945] Opyt sovetskoi meditsiny v Velikoi Otechestvennoi voine
1941-1945 gg. Moskva, Gos. izd-vo meditsinskoi lit-ry. Vol.11. 1952.
415 p. (MLRA 8:2)

1. Deystvitel'nyy chlen Akademii nauk SSSR i Akademii meditsinskikh
nauk SSSR (for Anichkov) 2. Deystvitel'nyy chlen Akademii meditsin-
skikh nauk SSSR (for Bakulev)
(Spine--Wounds and injuries)

BAKULEV, Aleksandr Nikolayevich, red.

[Clinical studies on operative surgery; based on material from
the Srasokukotskii Surgical Clinic] Klinicheskie ocherki ope-
rativnoi khirurgii; po materialam Khirurgicheskoi kliniki imeni
akademika S.I. Srasokukotskogo. Moskva, Medgiz, 1952. 430 p.
(SURGERY, OPERATIVE) (MIRA 13:9)

PAKHLEV, A. N. (Prof.); VINOGRADOV, V. V.

Cysts

Clinical aspect and surgical therapy of pancreatic cysts. *Khirurgiya* No. 2, 1952.

9. Monthly List of Russian Accessions, Library of Congress, August 1956₂, Unclassified.

BAKULEV, A. N.

"Penicillin in Surgery," Reviewed by A.N.Bakulev, Khirurgiya No.3, 1952.

BAKULEV, A. N.

"Removal of Foreign Bodies from the Pleural Cavity, Lungs, and Mediastinum," by
I. S. Kolesnikov. Reviewed by A.N.Bakulev in Khirurgiya No.6, 1952.

BAKULEV, A.N.; GERASIMOVA, A.V.

Multi-stage radical pulmonary surgery. Khirurgiia, Moskva no.
8:50-61 Aug 1952. (CML 23:3)

1. Professor for Bakulev; Doctor Medical Sciences for Gerasimova.
2. Of the Faculty Surgical Clinic (Director -- Honored Worker in Science Prof. A. N. Bakulev), Second Moscow Medical Institute imeni I. V. Stalin.

MEGOVSKIY, V.A.; SMIRNENSKAYA, Ye.M.; BAKULEV, A.N.

Results of the treatment of terminal conditions. Khirurgiia, Moskva
no. 9:11-17 Sept 1952. (CLML 23:3)

1. Of the Laboratory of Experimental Physiology for Revival of the
Organism (Head -- Prof. V. A. Megovskiy), Academy of Medical Sciences
USSR and of the Faculty Surgical Clinic, Second Moscow Medical In-
stitute imeni I. V. Stalin (Director -- Honored Worker in Science
A. N. Bakulev).

1. BAKULEV, A. N., Prof.
2. USSR (600)
4. Chest - Surgery
7. "Surgery of organs of the thoracic cavity." Prof. N. V. Anteleva.
Reviewed by Prof. A. N. Bakulev, Khirurgiia, No. 10, 1952.
9. Monthly list of Russian Accessions, Library of Congress, March, 1953. Unclassified.

1. BAKULEV, A. N. Prof.
2. USSR (600)
4. Actinomycosis
7. Actinomycosis. G. O. Suteev. Reviewed by Prof. A. N. Bakulev. Khirurgiya no.12, 1952.
9. Monthly List of Russian Accessions, Library of Congress, May 1953, Uncl.

1. 1. 1.

"Clinical Sketches on Operative Surgery (From the Material of the Spasokukotskiy Surgical Clinic)" Reviewed by A. M. Zabludovskiy, Vest. Khir., 72, No.4, 1952.

TIKHONOVA, Z.I.; STEPANOVA, M.N., kandidat meditsinskikh nauk; MESHALKIN, Ye.N., kandidat meditsinskikh nauk; BAKULEV, A.N., professor; GULIYEV, A.V., professor; VOZNESENSKIY, V.P., professor; DMITRIYEV, I.P., professor; OONEV, B.V., professor; VAZA, D.L., professor; PETROY, B.A., professor, predsedatel'; DOROFYEV, V.I., sekretar'.

Minutes of the session of the Surgical Society of Moscow and Moscow Province of June 27, 1952. Khirurgiya no.3:84-88 Mr '53. (47 PA 4:6)

1. Khirurgicheskoye obshchestvo Moskv i Moskovskoy Oblasti.
(Heart--Surgery) (Cardiovascular system--Surgery)

SIDOROV, G.I.; BRISKIN, A.I.; BAKULEV, A.N., professor, deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR, direktor; MASHKOVSKIY, M.D., professor, sveduyushchiy.

Application of diplacin, a Soviet preparation with curare-like action, in anesthesia in surgery. Khirurgiya no.4:48-56 Ap '53. (MLRA 6:6)

1. Fakul'tetskaya khirurgicheskaya klinika II Moskovskogo meditsinskogo instituta imeni I.V. Stalina (for Sidorov, Briskin and Bakulev). 2. Akademiya meditsinskikh nauk SSSR (for Bakulev). 3. Otdel farmakologii Vsesoyuznogo nauchno-issledovatel'skogo khimiko-farmatsevticheskogo instituta imeni S. Ordzhonikidze (for Sidorov, Briskin and Mashkovskiy). (Anesthesia)

GERASIMOVA, A.V.; BAKULEV, A.N., professor, direktor.

Hemoptysis and partial necrosis of the lungs following ligature of pulmonary vessels. Khirurgiia no.6:22-7 Je '53. (MLRA 6:8)

1. Fakul'tetskaya khirurgicheskaya klinika imeni S.I.Spasokukotskogo II Moskovskogo meditsinskogo instituta imeni I.V.Stalina. (Lungs--Diseases)

ALL CARDS
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AND FOLLOWING
BAKSHANKAYA, A.S.
WERE OUT OF SEQUENCE

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BAKSHI, Y.V.

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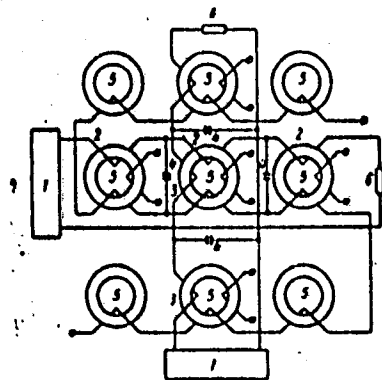


Fig. 1. 1 - coordinate current shapers;
2 and 3 - coordinate windings; 4 - capacitors;
5 - magnetic coordinate cores; 6 - loads

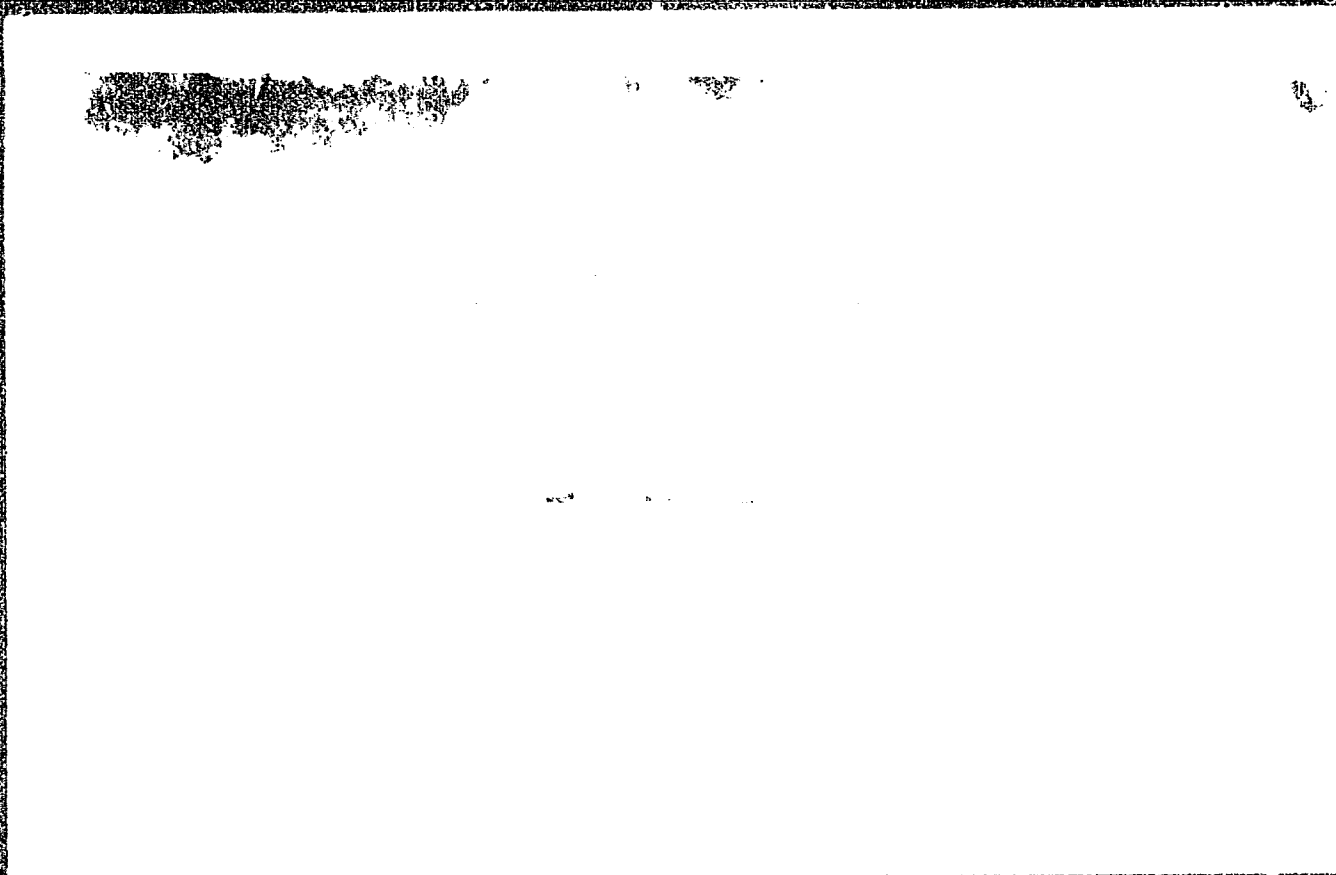
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APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000103120013-0"

BAKHSHIYEV, N.G.

Effect of solvents on the intensity and position of bands in the
electron spectra of molecules. Izv. AN SSSR.Ser.fiz. 26 no.10:
1237-1240 0 162. (MIRA 15:10)
(Spectrum, Molecular) (Solvents)

BAKSHIYEV, N.G.; GIRIN, O.P.; LIBOV, V.S.

Relation between the observed and true molecular absorption spectra in a condensed medium. Part 1: Universal influence of the effective (internal) field. Opt. i spektr. 14 no.4: 476-483 Ap '63. (MIRA 16:6)

(Molecular spectra)

BAKHSHIYEV, N.G.; GIRIN, O.P.; LIBOV, V.S.

Relationship between the observed and true molecular absorption spectrum in a condensed medium. Part. 3. Calculating the influence of the effective (internal) field, using Lorentz and Onsager-Böttcher's models. Opt. i spektr. 14 no.6:745-750 Je '63. (MIRA 16:8)

(Molecular spectra)

BAKHSHIYEV, N.G.; PRIBYTKOVA, N.N.

Spectroscopic method for determining the density and thickness of films of strongly absorbing substances. Opt. i spektr.
15 no.4:574-576 0 '63. (MIRA 16:11)

KALASHNIKOV, Petr Leont'yevich; BAKIMIYAROV, V.D., inzh.,
retsenzont; YARMOLINSKIY, A.S., inzh., retsenzont;
AKINDINOV, M.V., red.; KIM'EL', L.S., red.izd-va;
AKOPOVA, V.M., tekhn. red.

[Commercial study of wood and forest products] Drevesino-
vedenie i lesnoe tovarovedenie. Moskva, Goslesbumizdat,
1963. 253 p. (MIRA 16:12)
(Forest products)

BAKSHI, B.P.

Cutaneous leishmaniasis in localities where this disease is nonepidemic.
(MLRA 6:7)
Vest.ven. i derm. no.3:58-59 My-Je '53.

1. Klinika koshnykh i venericheskikh bolezney Chkalovskogo meditsinskogo
instituta.
(Skin--Diseases)

KAZAKOV, V.I., dotsent; KRABKIN, B.S., dotsent; BAKSHIT, B.P., vrach.

Utilization of one of the components of the phytoncidal complex of
the forms of trichophytosis and microsporosis. Vest.ven.i derm.
no.5:51 S-O '53. (MLRA 6:12)

1. Iz kafedry dermatologii i biologii Chkalovskogo meditsinskogo
instituta.
(Phytoncides) (Medical mycology)

BAKSHT, B.P.

Case of thrombopenic purpura during a course of specific
therapy. Vest.ven.i derm. no.1:50 Ja-F '54. (MLRA 7:2)

1. Is kliniki koshnykh i venericheskikh bolezney Chkalovskogo
meditsinskogo instituta. (Purpura (Pathology))

BAKSHI, B.P.; KOTS, I.I.

Radiation injury during treatment of skin diseases. Vest. ven. 1
derm. no. 3:53 My-Je '54. (MLRA 7:8)

1. Is kliniki koshnykh bolezney Chkalovskogo meditsinskogo instituta.
(SKIN--DISEASES) (X-RAY--THERAPEUTIC USE)

BAKSHT, B.P.

"Skin and venereal diseases." L.I. Vandeev, Reviewed by B.P. Baksht.
Vost. ven. i derm.no.3:58-59 My-Je '55. (MLRA 8:10)
(SKIN-DISEASES) VENEREAL DISEASES (VANDEEV, L.I.)

12.02.77, 15.12
YABLENIK, B.S., professor; DRABKIN, B.S., dotsent; ~~BAKSHI, B.P.~~; YUMASHINA,
Ye.A.

Treating epidermophytosis with benzaldehyde, one of the phytoncides
components of the bird cherry. Vrach. delo no.3:309 Mr '57
(MLRA 10:5)

1. Kafedra obshchey biologii (sav.-dots. B.S. Drabkin) i klinika
koshnykh bolezney (sav.-prof. B.S. Yablenik) Chkalovskogo
meditsinskogo instituta i Oblastnoy kozhno-venericheskoy dispensar.
(BENZALDEHYDE) (SKIN--DISEASES)

BAKSHT, B.P.; KABANOVA, A.M.

Follow-up periods for women treated for gonorrhea. Vest.
derm. i ven. 37 no.8:68-69 Ag'63 (MIRA 17:4)

1. Orenburgskiy oblastnoy kozhno-venerologicheskii dispanser.

BAKSHT, F.G.

Stability of Maxwellian plasma. Zhur. tekhn. fiz. 33 no.10:
1173-1186 0 '63. (MIRA 16:11)

1. Institut poluprovodnikov AN SSSR, Leningrad.

SOV/137-58-7-14717

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 7, p 108 (USSR)

AUTHOR: Baksht, F.G.

TITLE: Production and Investigation of an Intermetallic AlSb Compound
(Polucheniye i issledovaniye intermetallicheskogo soyedineniya AlSb)

PERIODICAL: Sb. tr. Stud. nauchn. o-va. Leningr. elektrotekhn. in-t, 1957,
Nr 2, pp 20-31

ABSTRACT: A description is offered of a method for producing and investigating an intermetallic AlSb compound. The compound was produced by alloy diffusion of Al and Sb in stoichiometric ratio. The diffusion was performed under a flux consisting of various amounts of KCl and NaCl, with addition of NH_4Cl or BaCl_2 for purposes of neutralization. The sample resulting on addition of NH_4Cl was porous, but on addition of BaCl_2 the porosity disappears. In order for the complete reaction between Al and Sb to occur, the alloy was held at 1200°C for 40-50 min. The resulting globules were either sliced into specimens or ground into powder, and then pressed in the cold condition under 700 kg/cm^2 pressure. A number of specimens were

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Production and Investigation of an Intermetallic AlSb Compound

produced in the form of thin films by vaporization in vacuum. To do this, granules of the compound were placed in an Nb boat, through which a 26-27 amp current was transmitted. The AlSb fumes were precipitated on a glass plate that had first been washed in a $K_2Cr_2O_7 + H_2SO_4$ mixture, then in running water, dried in a thermostatically-controlled chamber, and wiped with alcohol. The final cleansing of the plate was by ionic bombardment. The fumes of the surface contaminants were trapped by a metal disk. The distance from the boat to the plate was 7 mm. A study was made of the temperature dependence of the electrical conductivity of the samples produced in the -170 to $+150^\circ$ interval. With increase in temperature an insignificant rise in σ was observed, different for specimens prepared in different ways, but no transition to intrinsic conductivity was observed up to 150° . It was found from the sign of the thermo-emf that AlSb possesses p-type conductivity. The AlSb alloy is highly hygroscopic and rapidly decomposes in air. A pulled specimen is most stable in terms of mechanical properties.

V.Kh.

1. Aluminum-antimony alloys--Production
2. Aluminum-antimony alloys--Diffusion

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89296

S/181/61/003/001/035/042
B102/B204

24.3600 (1106, 1114, 1137)

AUTHOR: Baksht, F. G.TITLE: The Faraday effect on free carriers in Bi_2Te_3 in a weak magnetic field

PERIODICAL: Fizika tverdogo tela, v. 3, no. 1, 1961, 243-251

TEXT: Measurement of the Faraday effect in semiconductors serves, above all, the purpose of determining the mobility μ of free carriers and of their effective mass m . Several reports have already been given on such measurements and calculations. It was the aim of the present paper to find out what information may be obtained in principle from observing the Faraday effect in Bi_2Te_3 in a weak magnetic field ($eH\tau/mc \ll 1$). For the infrared range and scalar relaxation time, this problem has already been solved (Austin, J. Electron. Control, v. 6, p. 271). In the calculations given here, the relaxation-time tensor is used, which had been given by A. G. Samoylovich and M. I. Klinger. The infrared and microwave ranges are studied; for the intermediate range, the tensor of the dielectric constant for any direction of the magnetic field is calculated.

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The Faraday effect on free...

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Bi_2Te_3 is an optically uniaxial crystal, and therefore the Faraday effect is of essential value only if the propagation direction of the electromagnetic waves, the field $\vec{H}$, and the optical axis Z coincide. If the incident wave in the $Y=0$ plane is polarized, the wave emerging from the absorbing layer having a thickness L is elliptically polarized, the major axis of the ellipse forming the angle ψ with the x -axis; ψ and the degree of ellipticity η (axial ratio) are given by $\psi = \chi' L$ and $\eta = -\chi'' L$. In the microwave range, $|\chi| L \ll 1$; in the infrared, $\chi'' \ll \chi'$, $\chi = \chi' + i\chi''$. For the determination of $\epsilon_{ij}(\omega)$, which, after all, is the aim of the

problem, because $\chi L = -\frac{1}{2} \cdot \frac{\omega \epsilon_{xy}(\vec{H}) L}{\omega \epsilon_{xx}}$, the admittance tensor $\sigma_{ij}(\omega)$

must be used (4): $\epsilon_{ij}(\omega) = \epsilon_{ij}^{(0)} + \frac{4\pi i}{\omega} \sigma_{ij}(\omega)$, where $\epsilon_{ij}^{(0)}$ is the tensor of the dielectric constant of the lattice. First, the admittance tensor is calculated by a method suggested in Ref. 6, and after lengthy calculations,

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The Faraday effect on free...

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$$\left. \begin{aligned} \sigma_{xx}(\omega) &= \sigma_{xx}(\omega) \frac{2ne^2\epsilon_0}{3\sqrt{\pi}} \left\{ \varphi(\delta) - \gamma^2 \varphi(3\delta) - \gamma^4 [e^{\gamma^2} \text{Ei}(-\gamma^2) (\varphi(5\delta) + \right. \\ &\quad \left. + \gamma^2 \varphi(\delta)) + \varphi(\delta)] + i\gamma \left[\pi \gamma^2 [e^{\gamma^2} \text{erfc } \gamma (\varphi(5\delta) + \right. \right. \\ &\quad \left. \left. + \gamma^2 \varphi(\delta)) - \frac{1}{\sqrt{\pi}} \varphi(\delta)] - \sqrt{\pi} \gamma^2 \varphi(4\delta) + \frac{\sqrt{\pi}}{2} \varphi(2\delta) \right] \right\}, \\ \sigma_{xx}(\omega) &= \frac{4ne^2\epsilon_0}{3\sqrt{\pi}} \left(\frac{\sin^2 \theta}{m_1} + \frac{\cos^2 \theta}{m_2} \right) \left\{ \zeta(\delta) - \gamma^2 \zeta(3\delta) - \right. \\ &\quad \left. - \gamma^4 \left[\left(1 + \frac{5\delta}{1+\lambda_0} + \frac{2\delta}{1+\lambda_0} \gamma^2 \right) e^{\gamma^2} \text{Ei}(-\gamma^2) + \frac{2\delta}{1+\lambda_0} \right] + \right. \\ &\quad \left. + i\gamma \left[\pi \gamma^2 \left[\left(1 + \frac{5\delta}{1+\lambda_0} + \frac{2\delta}{1+\lambda_0} \gamma^2 \right) e^{\gamma^2} \text{erfc } \gamma - \frac{2}{\sqrt{\pi}} \frac{\delta}{1+\lambda_0} \gamma \right] - \right. \right. \\ &\quad \left. \left. - \sqrt{\pi} \gamma^2 \zeta(4\delta) + \frac{\sqrt{\pi}}{2} \zeta(2\delta) \right] \right\}. \end{aligned} \right\} \quad (28)$$

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The Faraday effect on free...

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$$\begin{aligned} \sigma_{xy}(\omega, H_z) = & \frac{2ne^2H_z}{Scm_2} \left\{ F_1(\gamma) \left(\frac{\cos^2 \theta}{m_1} + \frac{\sin^2 \theta}{m_3} \right) + \frac{3F_4(\gamma)}{(1+\lambda_0)^2} \times \right. \\ & \times \left[(2+3\lambda_0) \left(\frac{\cos^2 \theta}{m_1} + \frac{\sin^2 \theta}{m_3} \right) - \frac{1}{m_2\lambda_0} \right] + i \left[F_2(\gamma) \left(\frac{\cos^2 \theta}{m_1} + \right. \right. \\ & \left. \left. + \frac{\sin^2 \theta}{m_3} \right) + \frac{3F_4(\gamma)}{(1+\lambda_0)^2} \left((2+3\lambda_0) \left(\frac{\cos^2 \theta}{m_1} + \frac{\sin^2 \theta}{m_3} \right) - \frac{1}{m_2\lambda_0} \right) \right] \right\}, \\ \sigma_{xy}(\omega, H_z) = & -\frac{ne^2H_z}{Sc} \left\{ F_1(\gamma) \left(\frac{\cos^2 \theta}{m_2m_3} + \frac{\sin^2 \theta}{m_1m_2} + \frac{1}{m_1m_3} \right) + \right. \\ & + \frac{3F_4(\gamma)}{(1+\lambda_0)^2} \left[(2+3\lambda_0) \left(\frac{\cos^2 \theta}{m_2m_3} + \frac{\sin^2 \theta}{m_1m_2} \right) + \frac{2+\lambda_0}{m_1m_3} \right] + \\ & + i \left[F_2(\gamma) \left(\frac{\cos^2 \theta}{m_2m_3} + \frac{\sin^2 \theta}{m_1m_2} + \frac{1}{m_1m_3} \right) + \frac{3F_4(\gamma)}{(1+\lambda_0)^2} \times \right. \\ & \left. \left. \times \left((2+3\lambda_0) \left(\frac{\cos^2 \theta}{m_2m_3} + \frac{\sin^2 \theta}{m_1m_2} \right) + \frac{2+\lambda_0}{m_1m_3} \right) \right] \right\}. \end{aligned} \quad (29)$$

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The Faraday effect on free...

are finally obtained. The notations used here are defined by

$$\tau_0 = \frac{b}{\sqrt{kT}} = b \sqrt{\beta}, \quad \gamma = \omega \tau_0, \quad \zeta(\delta) = \zeta(\lambda_0, \delta) = 1 + \frac{b}{1 + \lambda_0},$$

$$\phi(\delta) = \phi(m_1, m_2, m_3, 0, \delta) = \frac{2b}{1 + \lambda_0} \left(\frac{\cos^2 \delta}{m_1} + \frac{\sin^2 \delta}{m_2} + \frac{2\lambda_0 - 1}{m_3 \lambda_0} \right),$$

$$\varphi(\delta) = \varphi(m_1, m_2, m_3, 0, \delta) = \left(\frac{\cos^2 \delta}{m_1} + \frac{\sin^2 \delta}{m_2} + \frac{1}{m_3} \right) \left(1 + \frac{b}{1 + \lambda_0} \right) + \frac{b(\lambda_0 - 1)}{m_3 \lambda_0 (\lambda_0 + 1)},$$

$$F_1(\gamma) = 1 - 6\gamma^2 - 4\gamma^4 + \sqrt{\pi} \gamma^3 (8 + 4\gamma^2) e^{\gamma^2} \operatorname{erfc} \gamma,$$

$$F_2(\gamma) = 1 - 12\gamma^2 + 3\gamma^4 - 23\gamma^6 - 4\gamma^8 + \sqrt{\pi} \gamma^3 (20 + 22\gamma^2 + 4\gamma^4) e^{\gamma^2} \operatorname{erfc} \gamma,$$

$$F_3(\gamma) = \frac{4\gamma}{\sqrt{\pi}} [1 + \gamma^2 + (2 + \gamma^2) \gamma^2 e^{\gamma^2} \operatorname{Ei}(-\gamma^2)],$$

$$F_4(\gamma) = \frac{2\gamma}{3\sqrt{\pi}} [3 + 9\gamma^2 + 2\gamma^4 + (10 + 11\gamma^2 + 2\gamma^4) \gamma^2 e^{\gamma^2} \operatorname{Ei}(-\gamma^2)].$$

n is the total concentration of conduction electrons. From these general formulas, approximative formulas are derived for $\gamma \ll 1$ and $\gamma \gg 1$. In the microwave range, one then obtains

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The Faraday effect on free...

$$\begin{aligned} \epsilon_{xx}(\omega) = \epsilon_{xx}^0 + i\epsilon_{xx}^{\omega} = \epsilon_{xx}^{(0)} + i \frac{8\sqrt{\pi}e^2\epsilon_0 n}{3\omega} \left[\left(\frac{\cos^2 \theta}{m_1} + \frac{\sin^2 \theta}{m_2} + \frac{1}{m_3} \right) \times \right. \\ \left. \times \left(1 + \frac{b}{1+\lambda_0} \right) + \frac{b(\lambda_0-1)}{m_3\lambda_0(\lambda_0+1)} \right], \\ \epsilon_{xy}(\omega, H_z) = i\epsilon_{xy}^{\omega} = i \frac{8\pi e^2 \epsilon_0 n H_z}{3\omega c m_3} \times \\ \times \left\{ \left[1 + b \frac{2+3\lambda_0}{(1+\lambda_0)^2} \right] \left(\frac{\cos^2 \theta}{m_1} + \frac{\sin^2 \theta}{m_2} \right) - \frac{b}{m_3\lambda_0(1+\lambda_0)^2} \right\}. \end{aligned} \quad (34)$$

and

$$\theta = \frac{\omega L}{2c} \frac{\epsilon_{xy}^{\omega}}{\sqrt{\epsilon_{xx}^{(0)}}} \left[\frac{(1+x^2)^{1/2} + 1}{2(1+x^2)} \right]^{1/2}, \quad (35)$$

$$\eta = \frac{\omega L}{2c} \frac{\epsilon_{xy}^{\omega}}{\sqrt{\epsilon_{xx}^{(0)}}} \left[\frac{(1+x^2)^{1/2} - 1}{2(1+x^2)} \right]^{1/2}, \quad (36)$$

by using (4) and the expressions obtained for $\sigma_{ij}(\omega)$ with $\gamma \ll 1$, where $x = \epsilon_{xx}^{\omega}/\epsilon_{xx}^{(0)}$. $\nu/\eta = [(1+x^2)^{1/2} + 1]/x$. For the Hall mobility,

$$\mu_H = \sqrt{\pi} \frac{e\epsilon_0}{m_3} \left\{ \frac{\nu_0^2}{1+\nu_0^2} + \frac{b}{1+\lambda_0} \left[\frac{\nu_0^2}{1+\nu_0^2} + \frac{\lambda_0^2\nu_0^2-1}{\lambda_0(1+\lambda_0)(1+\nu_0^2)^2} \right] \right\}, \quad (39)$$

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The Faraday effect on free...

is obtained, where $v_0^2 = \frac{m_2}{m_1} \cos^2 \theta + \frac{m_2}{m_3} \sin^2 \theta$. In the infrared one obtains

$$\left. \begin{aligned} \epsilon_{xx}(\omega) &= \epsilon_{xx}' + i\epsilon_{xx}'' = \epsilon_{xx}^{(0)} + \frac{2\pi n e^2}{\omega^2} \left(\frac{\cos^2 \theta}{m_1} + \frac{\sin^2 \theta}{m_3} + \frac{1}{m_2} \right) \left(-1 + i \frac{8}{3\sqrt{\pi} \gamma} \right), \\ \epsilon_{xy}(\omega, H_z) &= \epsilon_{xy}' + i\epsilon_{xy}'' = -\frac{4\pi n e^2 H_z}{c m_2 \omega^2} \left(\frac{\cos^2 \theta}{m_1} + \frac{\sin^2 \theta}{m_3} \right) \left(\frac{16}{3\sqrt{\pi} \gamma} + i \right). \end{aligned} \right\} \quad (40)$$

from (4) and $\sigma_{ij}(\omega)$ for $\gamma \gg 1$. In this range one may assume that $\epsilon_{xx} = \epsilon_{xx}^{(0)}$,

and thus $\chi = \frac{\omega L}{20} \frac{\epsilon_{xy}''}{\epsilon_{xx}^{(0)'}}$, $\eta = \frac{\omega L}{20} \frac{\epsilon_{xy}'}{\epsilon_{xx}^{(0)'}}$ and $\eta/\chi = 16\gamma/3\sqrt{\pi}$. As a result of

anisotropy, all quantities measured are tensors. Actually, only the components of the tensors in the plane perpendicular to Z are measured. In the microwave range, these quantities are

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$$\sigma_{xx}(0, H) = -\sigma_{yy}(0, H) = \frac{2e^3 \epsilon_0 n^2 H_z}{9cm_z} \left\{ \left[1 + \delta \frac{2 + 3\lambda_0}{(1 + \lambda_0)^2} \right] \left(\frac{\cos^2 \theta}{m_1} + \frac{\sin^2 \theta}{m_3} \right) - \frac{\delta}{m_2 \lambda_0 (1 + \lambda_0)^2} \right\} \quad (43)$$

In the infrared, only $\frac{1}{m_2} \left(\frac{\cos^2 \theta}{m_1} + \frac{\sin^2 \theta}{m_3} \right)$ can be found if the rotation of the polarization plane is known. The author thanks Professor A.O.Samoylovich for suggesting the subject and supervising the present work; he further thanks M. I. Klinger and I. Ya. Korenblit, Candidates of Physical and Mathematical Sciences, for placing results at his disposal before publication. There are 15 references: 5 Soviet-bloc and 10 non-Soviet-bloc.

ASSOCIATION: Institut poluprovodnikov AN SSSR Leningrad (Institute of Semiconductors, AS USSR, Leningrad)

SUBMITTED: July 13, 1960

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39819
S/057/62/032/008/008/015
B104/B102

531
AUTHOR: Baksht, F. G.

TITLE: Compensation of the electron space charge in vacuum thermocouples

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 32, no. 8, 1962, 975 - 985

TEXT: The compensation of the electron space charge by ions resulting from contact ionization at the ion emitter is studied. The potential distribution between electron and ion emitters is calculated on the assumption of unbounded surfaces face to face. The operational conditions of a vacuum thermocouple with space charge compensation are analyzed for the case where the ion source is a cathode and the potential distribution has a minimum, the electron emission from the anode being taken into account. It is shown that reduction of the potential minimum when the electrodes are spaced further apart is limited by the formation of a region with compensated space charge. There are 10 figures.

ASSOCIATION: Institut poluprovodnikov AN SSSR Leningrad (Institute of Semiconductors AS USSR, Leningrad)

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L 9883-63 EWG(k)/BDS/EWT(1)/EEG(b)-2/ES(w)-2--

AFPTG/AFWL/ASD/ESD-3/SSD--Ps-4/Pab-4--IJP(Q)/AT

ACCESSION NR: AP3001328

S/0057/63/033/006/0693/0702

AUTHOR: Baksht, F. G.

72

TITLE: Oscillations in an electron-ion flow

70

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 33, no. 6, 1963, 693-702

TOPIC TAGS: plasma oscillations, plasma oscillation generation, plasma ion oscillations, plasma electron oscillations

ABSTRACT: Proceeding from investigations of plasma oscillations by L. Tonks and I. Langmuir (Phys. Rev., 33, 195, 1929) and from the theory of electron oscillations of A. A. Vlasov (ZhETF, 8, 291, 1938) and L. D. Landau (ZhETF, 16, 574, 1946), the author analyzes the effects connected with electron and ion velocities in a Knudsen plasma subject to nonequilibrium distribution functions. Since practically no collisions of particles occur within the narrow interelectrode space, the electron and ion volume charges are mutually compensated, and a low-pressure plasma diode is the result. Measurements were made whose immediate object was determination of 1) the

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ACCESSION NR: AP3001328

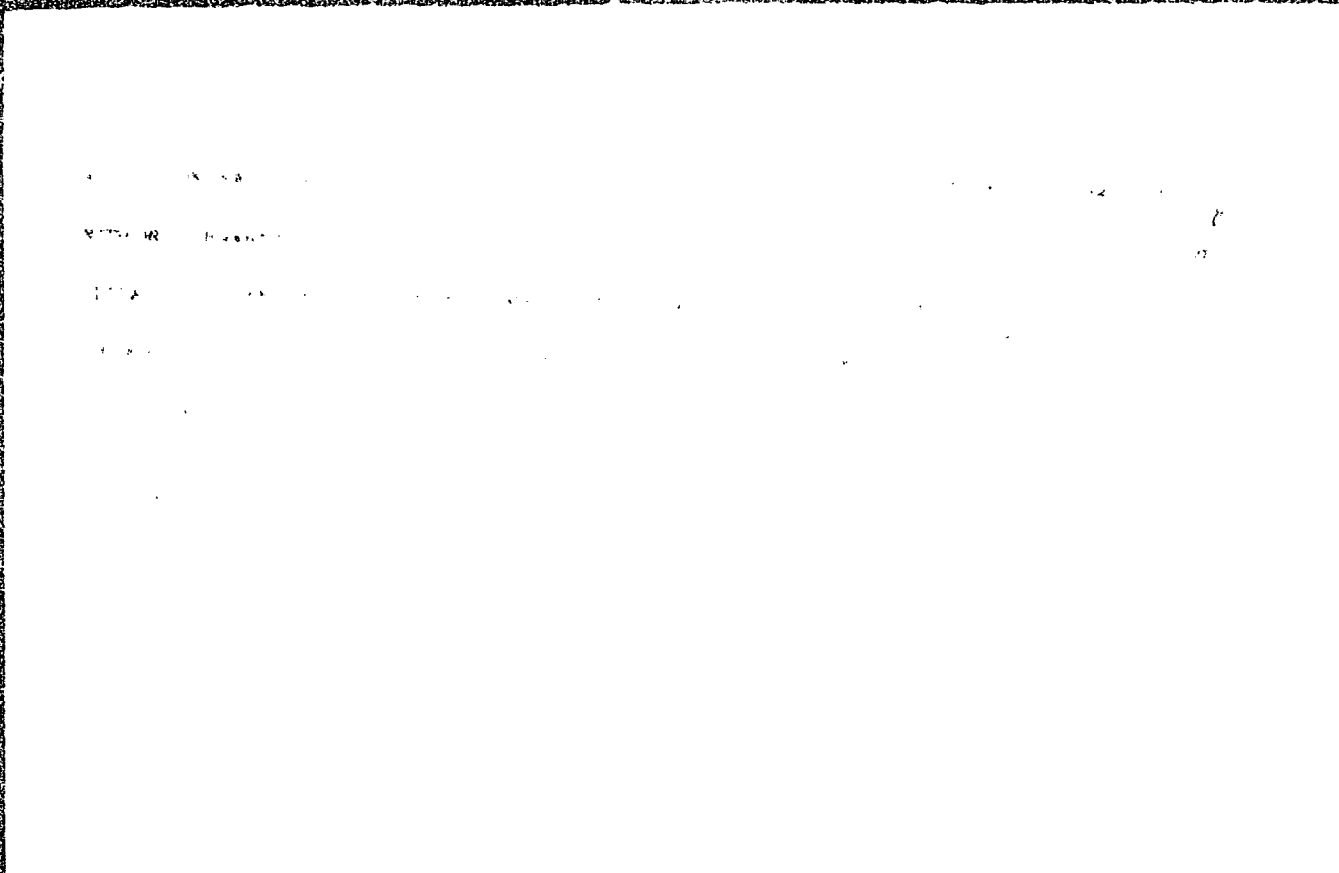
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frequency dependence of the impedance of such a diode and 2) the frequency ranges in which the diode could serve as an ultrahigh-frequency oscillator. The model of the arrangement investigated, the "plasma monotron," corresponds to two ideal grids immersed in plasma, short-circuited for direct current, and kept at the plasma potential by means of an appropriate outside shift. Analysis indicates that oscillation becomes possible at frequencies at which space-charge waves are present and that the field has a wave character. Since electrons and ions are accelerated or decelerated by the field, a transfer of electron or ion kinetic energy to the field takes place at every deceleration. "The author is deeply indebted to B. Ya. Myzhes for directing the work and discussing its results." Orig. art. has: 34 formulas.

ASSOCIATION: Institut poluprovodnikov AN SSSR, Leningrad (Institute of Semiconductors AN SSSR)

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1. The first part of the document discusses the importance of maintaining accurate records of all activities and the need for a systematic approach to data collection and analysis. It emphasizes the role of the research team in ensuring the integrity and reliability of the information gathered.

2. The second part of the document outlines the methodology used in the study, including the selection of subjects, the design of the experiments, and the procedures for data collection and analysis. It describes the various techniques and tools employed to ensure the accuracy and consistency of the results.

3. The third part of the document presents the results of the study, which show a clear correlation between the variables being studied. The data indicates that the proposed hypothesis is supported by the findings, and the results are consistent with previous research in the field.

4. The final part of the document discusses the implications of the study and the need for further research. It highlights the importance of continuing to explore the relationship between the variables and the potential applications of the findings in other contexts.

5. The document concludes by summarizing the key findings and the overall conclusions drawn from the study. It reiterates the importance of the research and the need for continued efforts to advance the understanding of the subject matter.

6. The document also includes a list of references to the sources used in the study, as well as a list of figures and tables that are included in the appendix. The appendix contains detailed data and additional information that supports the findings of the study.

7. The document is signed by the principal investigator, who is responsible for the overall direction and execution of the study. It is dated and includes the name and title of the investigator.

8. The document is submitted to the appropriate authorities for review and approval, and it is made available to the public for their use and reference.

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the fundamental equations and boundary conditions are quoted from the reference

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Orig. art. has: 40 formulas and 3 figures.

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T/EWA(h) IJP(c) TT/WW/AT

ACCESSION NR: AP5020738

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AUTHOR: Raksht, F. G.

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TITLE: On the impedance of a diode filled with a rarefied plasma

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 8, 1965, 1471-1482

TOPIC TAGS: rarefied plasma, plasma device, diode electron tube, thermionic energy conversion, electric impedance

ABSTRACT: Because of its interest in connection with energy converters, the author has previously calculated the impedance of an unsteady vacuum diode with space charge limitation and an applied electric field in the anode sheath region of the diode with the assumptions (Zhurav, 33, 693, 1963). In the present paper he repeats this calculation, relaxing certain of the previous simplifying assumptions and introducing others. In the previous calculation it was assumed that the velocities of the electrons and ions flowing from the cathode to the anode were described by the following relations:

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